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ABSTRACT

The Alcohol Misuse Prevention Study (AMPS) presented an alcohol education program to fifth and sixth grade students based on social learning theory. The AMPS program introduced students to the concept of social pressure (especially peer pressure) to misuse alcohol and to strategies to effectively counter such pressure. The program was evaluated in 213 classrooms in six school districts with 4,911 students completing the first posttest, and 4,185 completing the second. Schools were randomly assigned to the condition pretest or no pretest; and to control, program, or program plus booster groups. Information was collected on students' knowledge about alcohol, health locus of control, self-esteem, and susceptibility to peer pressure. At the second posttest, 14 months after the program's implementation, a statistically significant effect was found on students' alcohol attitudes and knowledge. There were no significant differences between conditions on alcohol use and misuse, due to low prevalence in both groups. As students become seventh and eighth graders, significant effects are expected to appear in the third posttest when alcohol use and misuse are expected to rise. (Author/ABL)

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EVALUATION OF AN ELEMENTARY SCHOOL-BASED ALCOHOL MISUSE PREVENTION PROGRAM*

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The purpose of the Alcohol Misuse Prevention Study (AMPS) was to develop, implement and evaluate a social skills educational intervention designed to prevent adolescent alcohol misuse. The intervention introduced students to the concept of social pressure (especially peer pressure) to misuse alcohol, and to strategies to effectively counter such pressure. The program was evaluated in 213 classrooms in 6 school districts (N = 5,635). Within each community, schools were randomly assigned to conditions: pretest or no pretest; and control, program, or program plus booster. Students were followed individually, completing questionnaires on their alcohol use and misuse, attitudes and knowledge about alcohol, health locus of control, self-esteem, and susceptibility to peer pressure.

At posttest, 14 months after the program, a statistically significant program effect was found on students' alcohol attitudes and knowledge. There were no significant differences between conditions on alcohol use and misuse due to low prevalence in both groups. As students become older, and prevalence of alcohol use and misuse increases among control students, significant program effects are expected to appear. The effects of the program on susceptibility to peer pressure, external and internal health loci of control, family, school, and peer adjustment, and the relationship of these indices to alcohol use and misuse are also reported.

Background

The misuse of alcohol is our nation's fourth most serious health problem. Alcohol misuse is related to excess deaths, higher health care costs, lower productivity, crime, chronic disease, homicide, suicide, and accidents. When young adults die, the major factor in the cause of their deaths is alcohol misuse.

Previous educational efforts have been directed toward the alcohol problem in young people, but programs are often implemented too late to prevent problems. Our program was targeted at fifth and sixth grade students, before they begin junior high and are exposed to the influence of older teenagers and before most have begun to use alcohol regularly. Previous alcohol education efforts, which relied primarily on providing young people with facts and information, have been able to improve knowledge about alcohol, but have not been able to produce change in alcohol use and misuse. Our program, funded by the National Institute on Alcohol Abuse and Alcoholism, used an intervention which taught young people the social skills needed to resist peer pressure, an approach that had been used successfully by others in the prevention of adolescent smoking.

The purpose of our study was to prevent alcohol misuse by young people. In our conceptual model (see Figure 1), alcohol misuse increases with age and with exposure to peers who misuse alcohol. The more susceptible to peer pressure young people are, the more likely it is that they will be influenced by their peers' alcohol misuse. Other concepts of interest are self-esteem, which is negatively related to alcohol misuse and locus of control: the more internal the health locus of control, the less susceptible to peer pressure the student will be and the higher his or her self-esteem will be. Our intervention was designed to reduce susceptibility to peer pressure, to increase internal health locus of control, and to reduce alcohol misuse.

Curriculum

A curriculum guide was developed, pilot tested, and revised specifically for this project. Based on social learning theory, the AMPS curriculum aimed to teach students about alcohol in its social context. The curriculum goals included increasing students' awareness of the short-term effects of alcohol, the risks of alcohol misuse, and the situations or social pressures to misuse alcohol that students may encounter in the near future. Students were then introduced to skills with which to deal with such pressures. Thus, the AMPS curriculum attempted to "inoculate" the students, preparing them to cope effectively with future peer and other social pressures to misuse alcohol.

The curriculum, which is outlined in Table 1, was presented by project staff teachers. Sessions (45 minutes each) were designed to actively involve the students and to offer positive reinforcement for their efforts. In the first year, there were four sessions and in the second year there were three "booster" sessions. Each lesson was previewed, taught, and then summarized. Previous sessions were reviewed. Audiovisual materials, student activity sheets, and handouts helped to maintain interest. The sessions provided multiple opportunities for students to develop and practice their new skills in role-playing saying "no" to peer pressure. In the fourth session, students were videotaped refusing the offer of a drink in hypothetical situations, and then viewed the videotape of the successful refusal.

Study Design

The study design (see Figure 2) included matching and random assignment of schools (from six southeastern Michigan districts) to the pretest or no pretest condition and to the curriculum, curriculum plus booster, or control condition. Pretesting of students with permission to participate (97% of those eligible) was done in late fall, 1984; the curriculum was implemented in Winter, 1985; the first posttest was done in Spring, 1985; the booster curriculum was implemented in

Winter, 1985; and the second posttest was done in the Spring of 1986. A third posttest will be done in the Spring of 1987, at which time the students will have reached the seventh and eighth grades. This report presents the results through Posttest 2 on the pretested students, using repeated measures analyses of variance to test for significant effects. Confidential, self-administered questionnaires, which covered topics including alcohol use, misuse, awareness of curriculum content, susceptibility to peer pressure, locus of control, and self-esteem, were available for data analyses from the 1,815 students who were present at all three testing occasions.

Measures

After factor analysis, the questionnaire items reflecting susceptibility to peer pressure, self-esteem, and locus of control were reduced to six indices: susceptibility to peer pressure; family, peer, and school adjustment (from self-esteem); and adult (external) and internal locus of control. External locus of control has been renamed adult locus of control to reflect better the item content. The indices each contain from four to eight items and their alpha coefficients range from .50 to .78. Alcohol use was reported by students in separate items on the frequency of use of beer, wine, and liquor in the previous 12 months. An index of alcohol use was created from these items using each student's highest frequency response reported for any of the three substances. Alcohol misuse was measured by items reflecting problems experienced as a result of alcohol use in the past 12 months. Three indices (with alpha coefficients ranging from .18 to .66) were developed from these items: overindulgence, trouble with peers, and trouble with adults. Awareness of the curriculum material presented in the prevention program was measured by 17 items which were scored correct or incorrect.

Results

At pretest, alcohol use was significantly related to all the indices: positively to susceptibility and negatively to the self-esteem and locus of control indices (see Table 2). The strongest relationship was with susceptibility, the weakest was with the locus of control indices.

The three alcohol misuse indices were significantly related (in the same direction as the alcohol use index) to all the indices except adult (external) locus of control. The strongest relationship was again seen with susceptibility; the weakest was with peer adjustment.

The effects of the prevention program on susceptibility to peer pressure, self-esteem, and locus of control were assessed. Analyzing the fifth and sixth grade data together, the treatment by occasion interaction for susceptibility to peer pressure was not significant (see Figure 3). It was, however, significant for the fifth graders. The significant increase in susceptibility over time was evident. Among the three self-esteem indices, there were no significant treatment by occasion interactions. Both family and school adjustment, however decreased significantly over time.

Again considering the fifth and sixth grades together, the significant decrease in perceiving adults as a locus of control was evident (see Figure 4). There was a significant ($p = .03$) treatment by occasion interaction with the control students decreasing at a more rapid rate than students who received the prevention program. Among fifth graders, the effect was significant at the $p < .001$ level. A similar situation occurred with internal locus of control (see Figure 5). Although the interaction for the combined grades was not significant, there was a significant interaction for the sixth grade alone with the students who received the prevention program having higher internal locus of control at Posttest 2 than the control group students.

In Figures 6 and 7, alcohol use is presented as the percentage of students who reported having a drink of alcohol (beer, wine or liquor) once a month or more in the past 12 months. Alcohol use increased significantly over time for both fifth and sixth grade students. Among fifth grade students (see Figure 6), 5-7% at pretest and 8-12% at posttest 2 used alcohol once a month

or more. Among sixth grade students (see Figure 7), 6-10% at Pretest and 16-19% at Posttest 2 reported using alcohol once a month or more. In neither grade was there a significant treatment by occasion interaction.

Reported alcohol misuse increased significantly over time for the sixth, but not for the fifth grade students. Of the fifth grade students (see Figure 8), 8-10% at Pretest and 7-11% at Posttest 2 reported having been drunk. Among sixth grade students (see Figure 9), 8-10% at Pretest and 16-22% at Posttest 2 reported having been drunk. Although in neither grade was the treatment by time interaction significant, the control group students did report more misuse at what appeared to be a more sharply increasing rate.

Student learning of material presented in the curriculum was shown by the percentage of 17 questionnaire items answered correctly. Among the fifth grade students (see Figure 10), there was a significant treatment by occasion interaction, with Posttest 2 results showing that students who experienced the curriculum scored higher than controls, and students who experienced the curriculum plus booster scoring higher than curriculum of control students. Further, for the sixth grade students (see Figure 11), there was also a significant treatment by occasion interaction, with curriculum students scoring higher than control students even at Posttest 2.

In summary, correlations among the indices using the pretest data from the study have confirmed other studies' results of significant negative relationships between alcohol use/misuse and self-esteem as well as locus of control. Further, there was a significant positive relationship between alcohol use/misuse and susceptibility to peer pressure. The prevention program, which emphasized social skills to resist peer pressure, had a significant effect on fifth grade students' susceptibility to peer pressure, and locus of control. Further, alcohol knowledge and attitudes, as reflected in questionnaire items covering the curriculum content, were significantly higher among students who experienced the prevention program. While alcohol use and misuse at Posttest 2 were not significantly affected by the prevention program, the results hold some promise as control group students reported more alcohol use and misuse than students who received the prevention program and the rate of use among the control group students appeared to be increasing more sharply than among the treatment group students. It is expected that differences between the groups may become significant by Posttest 3 when alcohol use and misuse among control group students has increased even more.

Figure 1. AMPS Conceptual Model

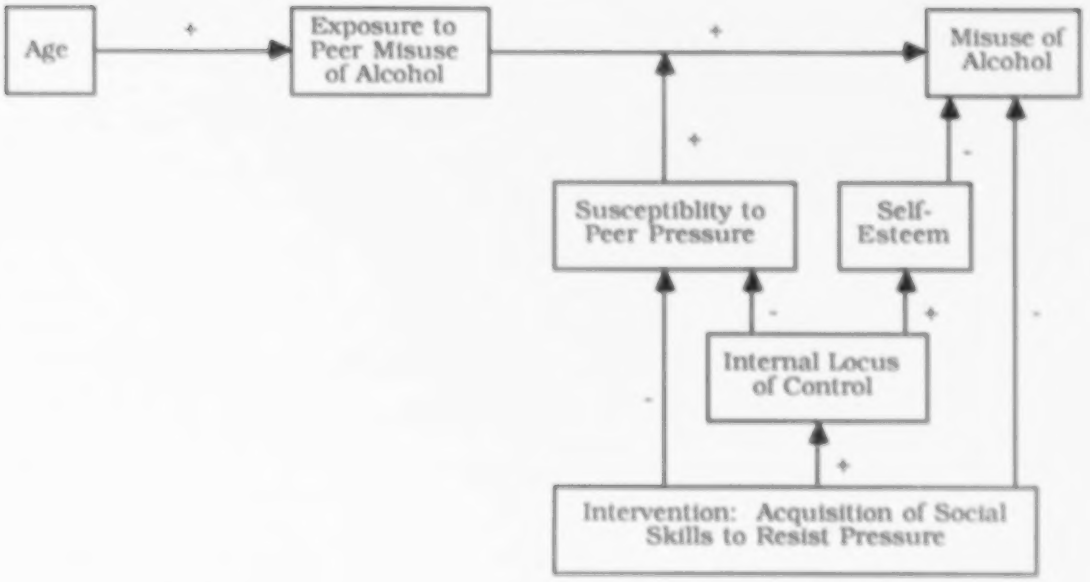

TABLE 1. ALCOHOL MISUSE PREVENTION CURRICULUM

Session/Goal	Objectives	Activity Summary
Session 1		
Make students aware of the various pressures which influence people to drink alcohol, the short term effects of alcohol and the risks of alcohol misuse.	• Identify 3 sources of pressure which influence people to drink alcohol. • State correctly 3 facts about alcohol and its short term effects. • Identify 2 risks of alcohol misuse.	Discussion, film, fact sheet, worksheet, crossword puzzle, anticipation of next session.
Session 2		
Develop students' awareness of advertising pressures to drink alcohol and to develop the ability to resist such pressures.	• Identify 4 types of appeals used in alcohol advertising. • Develop and use strategies to resist alcohol advertising pressures. • Recognize that advertising pressures and peer pressure are based on the same appeal.	Review, discussion, slides of alcohol advertisements, copies of different advertisements for students, worksheet, posters for class, pamphlets for each student, anticipation of next session.
Session 3		
Help students develop ways to resist pressure and to practice refusing offers to drink alcohol.	• Identify five categories of responses which can be used in resisting pressure. • Develop responses in each category. • Refuse the offer of a drink of alcohol in three different ways.	Review, discussion, film, worksheets, role playing, stickers for each student, anticipation of next session.
Session 4		
Provide students practice in ways to resist peer pressure to drink alcohol.	• Understand that it is possible to turn down the offer of an alcoholic drink without offending anyone. • Understand that the more you say "No Thanks," the easier it is. • Demonstrate 3 successful ways to resist the offer of an alcoholic drink.	Review, discussion, worksheet, role playing specific situations, film with music/lyrics on handout, poster for class.

TABLE 1 (Continued)

Session/Goal	Objectives	Activity Summary
Booster Session 1		
Review and reinforce student awareness of the risks of alcohol misuse, the short-term effects of alcohol, and the various pressures which influence people to drink alcohol.	• Define alcohol misuse. • Identify 2 risks of alcohol misuse. • State correctly 3 facts about alcohol and its short-term effects. • Identify 3 sources of pressure which influence people to drink alcohol.	Discussion, worksheets, fact sheet, poster for class, anticipation of next session.
Booster Session 2		
Review and reinforce the abilities to resist advertising pressure and to resist peer pressure to drink alcohol.	• State 4 types of appeals used in alcohol advertising and a strategy to resist alcohol advertising pressure. • Recognize that advertising pressure and peer pressure are based on some of the same appeals. • Identify 3 characteristics of successful resistance of peer pressure. • Effectively refuse the offer of a drink in 3 different ways. • Begin to anticipate future drinking situations; recognize potential alcohol misuse and risks of misuse; and develop strategies to respond.	Review, discussion, role-playing, advice panel, worksheets, poster for class, pamphlets for each student, anticipation of next session.
Booster Session 3		
Provide more practice in resisting peer pressure to drink alcohol.	• Recognize and utilize nonverbal behavior (body language) in refusals to the offer of an alcoholic drink. • Anticipate a future drinking situation; plan and practice ways to resist peer pressure in that situation. • Understand that the more you say, "No, thanks," the easier it is. • Understand that it is possible to turn down the offer of an alcoholic drink without offending anyone or lying.	Review, discussion, worksheet, skit development and performance, buttons for each student, poster for class.

FIGURE 2. AMPS STUDY DESIGN

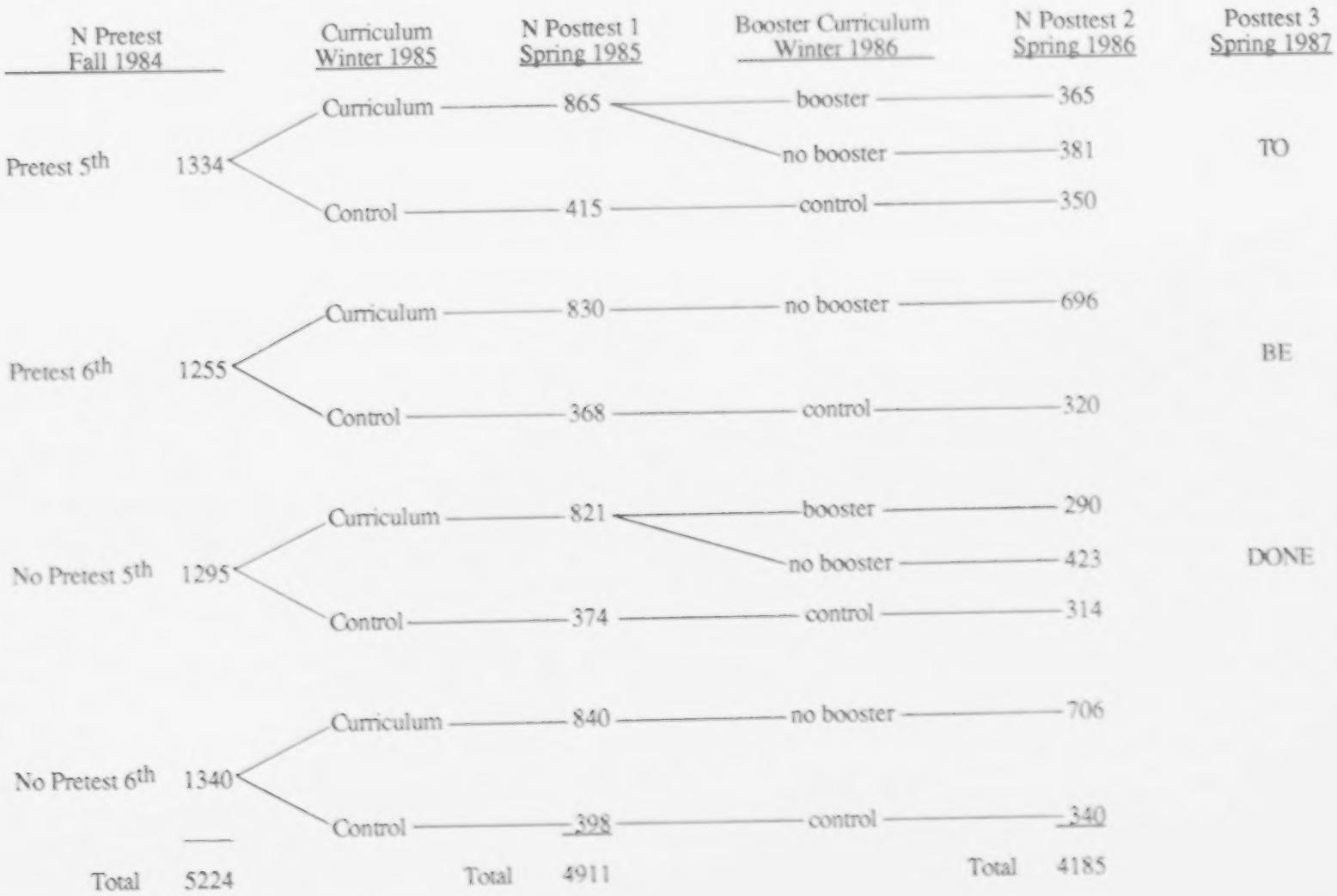

TABLE 2. CORRELATIONS AMONG INDICES

	1	2	3	4	5	6	7	8	9
1. Frequency of Alcohol Use									
2. Alcohol Misuse: Overindulgence	55								
3. Alcohol Misuse: Trouble with Peers	38	45							
4. Alcohol Misuse: Trouble with Adults	29	38	41						
5. Susceptibility to Peer Pressure	46	45	34	24					
6. Family Adjustment	-15	-17	-09	-10	-19				
7. Peer Adjustment	-04	-10	-06	-06	-09	38			
8. School Adjustment	-20	-20	-13	-13	-29	31	19		
9. Adult Locus of Control	-05	-01	01	00	-11	02	-08	02	
10. Internal Locus of Control	-05	-10	-13	-09	-03	16	06	09	-11

Note: Decimal points have been omitted; correlations $\geq .04$ are significant at the .05 level.

FIGURE 3. SUSCEPTIBILITY TO PEER PRESSURE

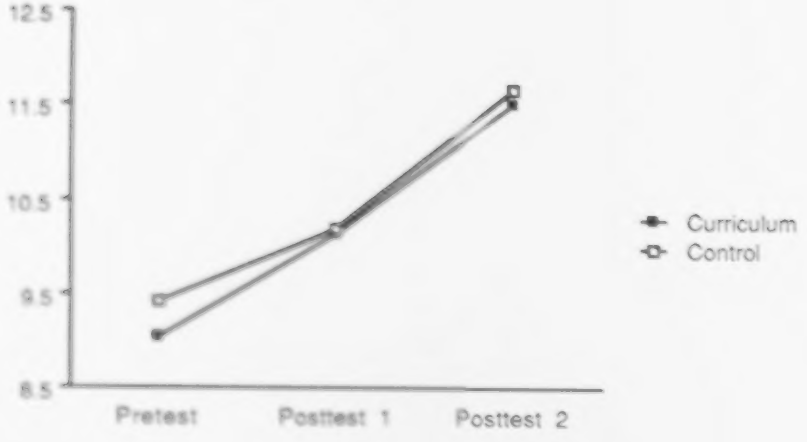

FIGURE 4. ADULTS AS LOCUS OF CONTROL

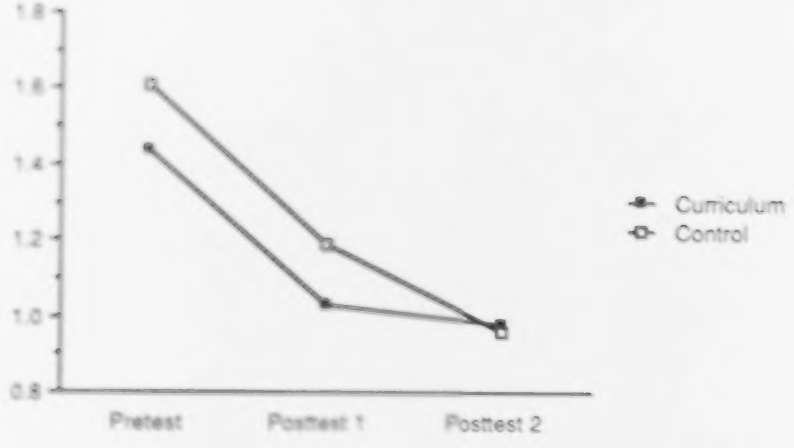

FIGURE 5. INTERNAL LOCUS OF CONTROL

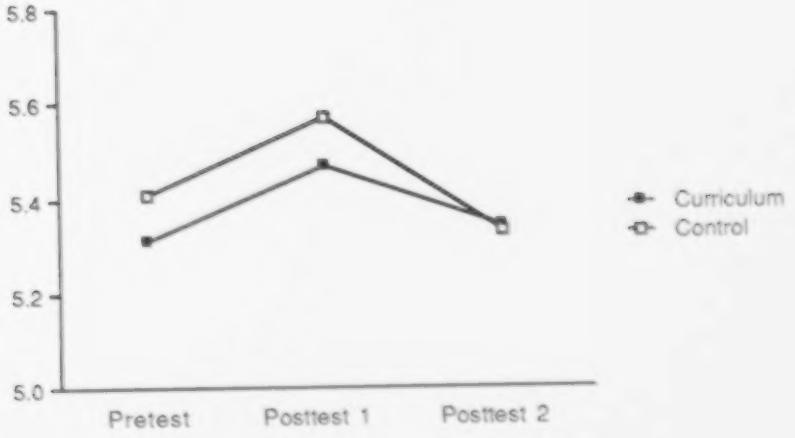

FIGURE 6. ALCOHOL USE

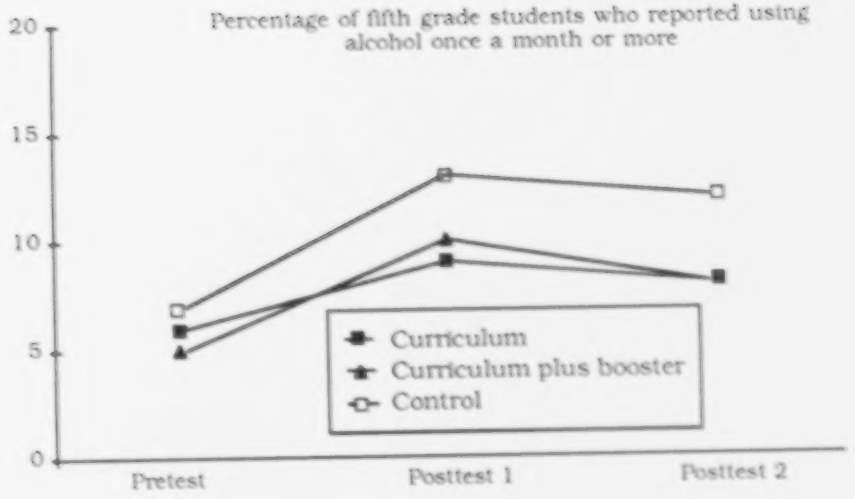

FIGURE 7. ALCOHOL USE

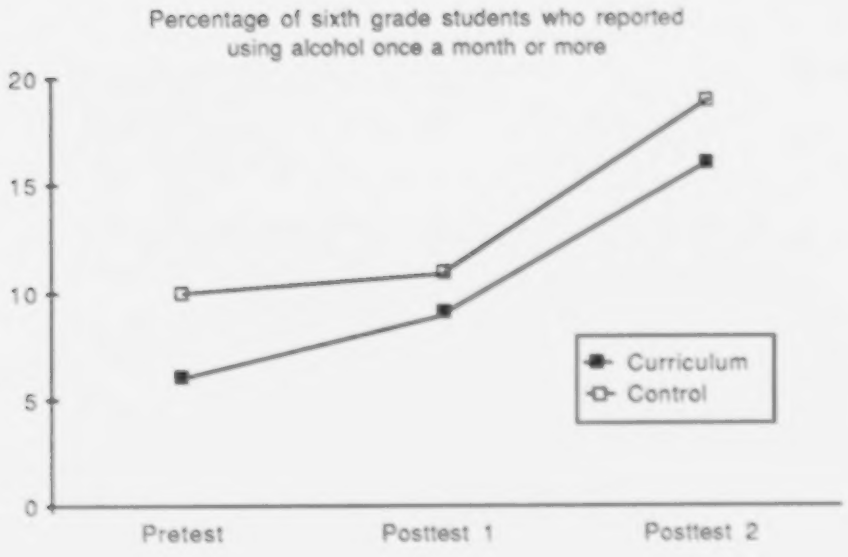

FIGURE 8. ALCOHOL MISUSE

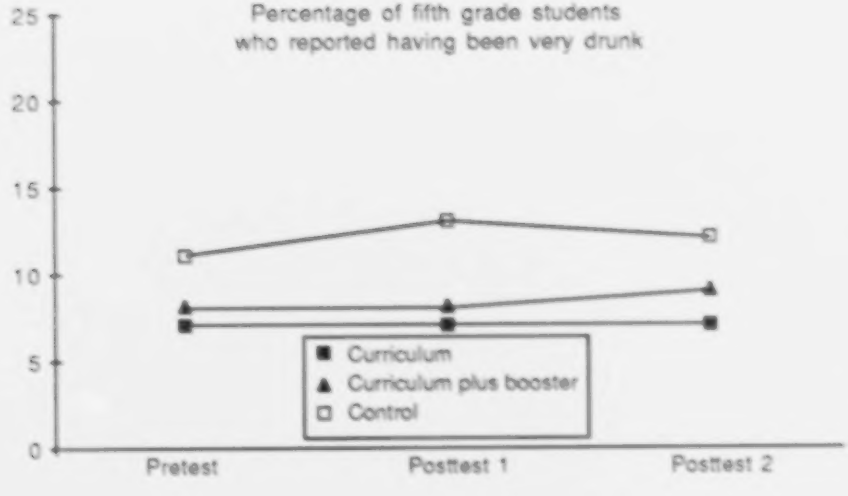

FIGURE 9. ALCOHOL MISUSE

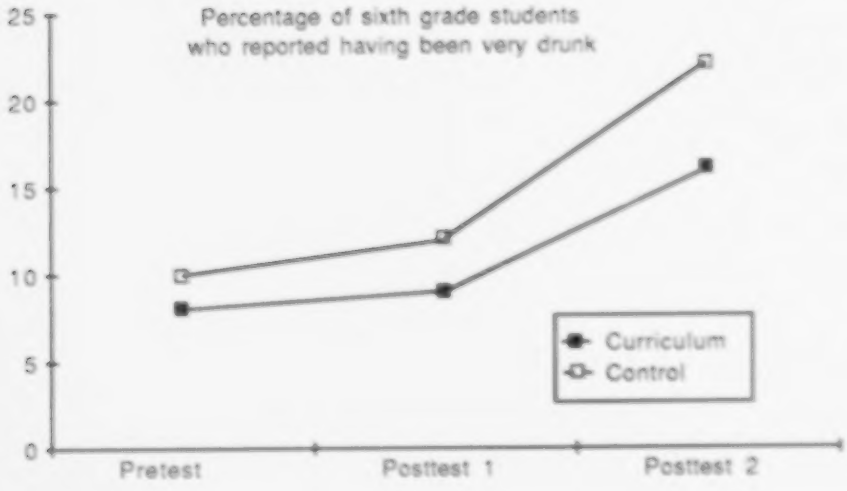

FIGURE 10. CURRICULUM CONTENT

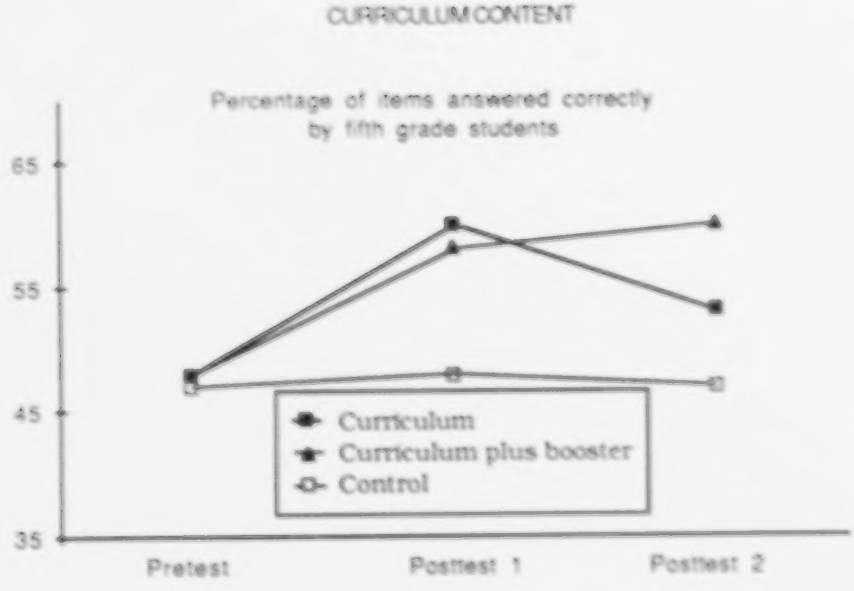

FIGURE 11. CURRICULUM CONTENT